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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,132	05/01/2006	Robert Chassagnon	5460-72PUS	5229
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EXAMINER				
MAKI, STEVEN D				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/578,132

Applicant(s)

CHASSAGNON ET AL.

Examiner

Steven D. Maki

Art Unit

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2010.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6, 7 and 9-11 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-4, 6-7, 9-11 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/GS/US)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

- 1) The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- 2) Claims 1-4, 6-7 and 9-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, it is unclear if "before the tire is used" (lines 9-10) has the same scope as "before the new tire is used" (line 12). In claim 1, it is suggested to change "before the tire is used" (lines 9-10) to --before the new tire is used--.

- 3) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Matsumoto et al (covering contact face and groove bottom and sidewalls)

- 4) **Claims 1-4, 6 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto et al (US 6,035,911) in view of Japan 712 (JP 09-099712) and in view of at least one of Japan 935 (JP 63-039935), Japan 311 (JP 2002-275311) and Hausmann (US 5,252,649).**

Matsumoto et al discloses a pneumatic tire for a passenger car having a tread comprising a surface layer 7c (covering mix) and a base portion 7b (base mix). See Figure 1, col. 2 lines 4-6). The tread has grooves and tread elements (Figures 1 and 2). The surface layer portion 7c (covering mix) comprises one or more rubbers, a reinforcing agent and 1-20 parts fluorine based additive (col. 2 lines 15-23, 32-44). The

one or more rubbers may be **isoprene-isobutylene copolymer rubber (butyl rubber)**. See col. 2 lines 15-23. The reinforcing agent may be silica (col. 2 lines 45-49) The tire has excellent drainage when run at high speed on wet road surface and excellent steering stability when run at high speed on dry road surface. Matsumoto et al teaches using aromatic oil in the surface layer 7c (covering mix). See Table 1 and Table 2. Matsumoto et al does not recite using unsaturated C12-C22 fatty acid ester type in the surface layer 7c (covering mix).

As to claims 1-4 and 11, it would have been obvious to one of ordinary skill in the art to include an amount such as 5-80 parts (claim 2), 15-30 parts (claim 4) or 10-50 parts (claim 11) unsaturated C12-C22 fatty acid ester type (claim 1) such as glycerol trioleate (claim 3) in the surface layer 7c (covering mix) of Matsumoto et al's pneumatic passenger car tire having excellent drainage on wet road surface and excellent steering stability on dry road surface since (1) Japan 935 suggests using 1-150 parts (or 5-30 parts) plasticiser in a tire tread for use on ice and snow because it *prevents hardening of the tread due to decreased T_g to improve running performance on ice and snow* wherein (a) the tire tread comprises rubber such as **butyl rubber** and (b) the plasticiser is a glycerine ester of formula I (page 1 lower left) where R₁, R₂, R₃ = H or 2-22C_{acryl} (abstracts, formula at page 1 lower left, ranges of "1-150" and "5-30" on page 2 lower left, invention examples 1-7 in Table 1 and invention examples 8-14 in Table 2), (2) Japan 311 teaches formulating a tire tread such that it comprises 100 parts rubber such as **butyl rubber**, 10-130 parts silica, silane coupling agent and 0.2-10 parts organic compound such as fatty acid ester so that *the composition is excellent in*

workability, dimensional stability and safety and the tire is excellent in uniformity (abstract, paragraphs 1, 43-44, 50-70, 83 of machine translation) and/or (3) Hausmann suggests including 2-35 parts plasticizer comprising fatty acid triglyceride such as triglyceride of oleic acid (glycerol trioleate) in the tread which may comprise **butyl rubber** to improve traction on ice and snow as well as dry and wet roads (abstract, col. 3 lines 38-48). Hence, Matsumoto et al, Japan 935, Japan 311 and Hausmann teach tread material comprising rubber and plasticiser. At least one of Japan 935, Japan 311 and Hausmann provide ample motivation (e.g. improved traction) to use the claimed unsaturated C12-C22 fatty acid ester type ("plasticiser") in Matsumoto et al's tread comprising surface layer portion 7c and base portion 7b. The applied secondary prior art to at least one of Japan 935, Japan 311 and Hausmann provides a reasonable expectation of success since each of Japan 935, Japan 311 and Hausmann teach using both butyl rubber and fatty acid ester (plasticiser) in a tire tread.

Since Matsumoto et al's surface layer portion 7c (covering mix) covers the entire groove surface, the surface layer portion 7c (covering mix) extends, when the tread is new, over a height H_r at least equal to 30% of the height H of the face of the tread pattern element.

With respect to the limitation regarding at most equal to 10% of the height H_r , it would have been obvious to one of ordinary skill in the art to provide the surface layer 7c (covering mix) of Matsumoto et al's passenger car tire such that, after wear at most equal to 10% (up to 10%) of the height H_r , the base portion 7b (base mix) is exposed and thereby opens on to the contact face since (1) Japan 712, also directed to a

passenger car tire, suggests forming a surface layer 1 (covering mix) containing a fluorine based resin with a thickness t_c of less than 10% of the thickness t_G of the tread 2 (base mix) such as 0.5 mm to 1 mm (abstract, machine translation) and optionally (2) it is taken as well known / conventional per se in the tire tread art to provide grooves of a passenger car tire with a depth of about 6-8 mm. Japan 712's disclosure of thickness for a surface layer is applicable to Matsumoto et al since the surface tread layer of Matsumoto and the surface layer of Japan 712 each comprise a fluorine based resin. Example: If the covering mix is 0.5 mm and the groove depth is 6 mm, then the covering mix wears so as to expose the base mix at 8.3% ($0.5 \text{ mm} / 6 \text{ mm} \times 100\%$). The value 8.3% falls within the range of at most 10%.

As to claim 6, Matsumoto et al teaches using 100 parts isobutylene isoprene copolymer rubber (butyl rubber). See col. 2 lines 15-23.

As to claim 9, Matsumoto et al teaches a tire with a tread.

As to claim 10, Matsumoto et al's tread comprises grooves.

5) **Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto et al (US 6,035,911) in view of Japan 712 (JP 09-099712) and in view of at least one of Japan 935 (JP 63-039935), Japan 311 (JP 2002-275311) and Hausmann (US 5,252,649) as applied above and further in view of Japan 701 (JP 2000-153701).**

As to claim 7, it would have been obvious to one of ordinary skill in the art to provide the base mix 7b of Matsumoto et al's passenger car tire such that it is devoid of butyl rubber since Japan 701, which teaches covering a groove with a butyl rubber layer

to prevent belt failure, suggests providing a base mix 1 of a passenger car tire such that it comprises crude rubber (natural rubber), styrene butadiene rubber, polybutadiene rubber, polyisoprene rubber or a mixture thereof (paragraph 5 of machine translation). Butyl rubber is not one of the disclosed rubbers for the tread 1 (base mix). See paragraph 5 of machine translation of Japan 701.

Japan 701 (covering groove bottom and sidewalls, but not contact face)

6) **Claims 1-4, 6-7 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japan 701 (JP 2000-153701) in view of at least one of Japan 935 (JP 63-039935), Japan 311 (JP 2002-275311) and Hausmann (US 5,252,649).**

Japan 701 discloses a passenger car tire having a tread 1 comprising a major groove 2 separating tread elements (Figure 1). Japan 701 is silent as to using a plurality of grooves. However, it would have been obvious to one of ordinary skill in the art to provide Japan 701's tread with a plurality of cutouts (claim 1) in the form of grooves (claim 10) defining a plurality of tread elements since it is taken as well known / conventional per se in the tire tread art to provide the tread of a pneumatic passenger car tire with circumferential grooves and lateral grooves and blocks defined by those grooves in order to improve wet traction of the tire. The tread 1 (base mix) comprises crude rubber (natural rubber), styrene butadiene rubber, polybutadiene rubber, polyisoprene rubber or a mixture thereof (paragraph 5). In other words, the tread is devoid of butyl rubber. Japan 701 teaches preventing belt failure by covering at least the groove bottom with a covering rubber layer 3. The covering rubber layer 3 comprises **isobutylene isoprene rubber (butyl rubber)**. See paragraph 5 of machine

translation. Japan 701 teaches covering only the groove bottom with the covering rubber layer. See Figure 1 and Example 1 (paragraph 9 of machine translation). Japan 701 also teaches covering all of the groove bottom and groove sidewalls with the covering rubber layer (paragraph 12 of machine translation). Japan 701 does not recite using unsaturated C12-C22 fatty acid ester type in the covering rubber layer (covering mix).

As to claims 1-4 and 11, it would have been obvious to one of ordinary skill in the art to include an amount such as 5-80 parts (claim 2), 15-30 parts (claim 4) or 10-50 parts (claim 11) unsaturated C12-C22 fatty acid ester type (claim 1) such as glycerol trioleate (claim 3) in the covering rubber layer 3 (covering mix) of Japan 701's pneumatic passenger car tire since (1) Japan 935 suggests using 1-150 parts (or 5-30 parts) plasticiser in a tire tread for use on ice and snow because it *prevents hardening of the tread due to decreased T_g to improve running performance on ice and snow* wherein (a) the tire tread comprises rubber such as **butyl rubber** and (b) the plasticiser is a glycerine ester of formula I (page 1 lower left) where R₁, R₂, R₃ = H or 2-22C acryl (abstracts, formula at page 1 lower left, ranges of "1-150" and "5-30" on page 2 lower left, invention examples 1-7 in Table 1 and invention examples 8-14 in Table 2), (2) Japan 311 teaches formulating a tire tread such that it comprises 100 parts rubber such as **butyl rubber**, 10-130 parts silica, silane coupling agent and 0.2-10 parts organic compound (plasticiser) such as fatty acid ester so that *the composition is excellent in workability, dimensional stability and safety and the tire is excellent in uniformity* (abstract, paragraphs 1, 43-44, 50-70, 83 of machine translation) and/or (3)

Hausmann suggests including 2-35 parts plasticizer comprising fatty acid triglyceride such as triglyceride of oleic acid (glycerol trioleate) in the tread which may comprise **butyl rubber** to *improve traction on ice and snow as well as dry and wet roads* (abstract, col. 3 lines 38-48). Hence, at least one of Japan 935, Japan 311 and Hausmann provide ample motivation (e.g. improved workability or improved traction) to use the claimed unsaturated C12-C22 fatty acid ester type ("plasticiser") in Japan 701's tread. It is noted that Japan 701's covering layer 3 contacts the road when the groove sidewalls and bottom are covered. The applied secondary prior art to at least one of Japan 935, Japan 311 and Hausmann provides a reasonable expectation of success since each of Japan 935, Japan 311 and Hausmann teach using both butyl rubber and fatty acid ester (plasticiser) in a tire tread.

With respect to "at least one base mix opens on to the contact face either before the new tire is used or after wear is up to 10% of the height H_r " (claim 1), Japan 701 satisfies this limitation because Japan 701 teaches covering the sidewalls and bottom of the groove instead of the tread surface.

With respect to the limitation regarding at least equal to 30%, it would have been obvious to one of ordinary skill in the art to cover Japan 701's groove with the covering rubber layer comprising isobutylene isoprene rubber (butyl rubber) such that the covering layer (butyl rubber layer) extends over a height H_r at least equal to 30% of the height H of the face of the tread pattern elements since Japan 701 teaches covering both the bottom and sidewalls of the groove 2 with the butyl rubber covering layer to prevent moisture from moving from the groove to the belt to prevent belt failure. It is

noted again that Japan 701's covering layer 3 contacts the road when the groove sidewalls and bottom are covered.

As to claim 6, Japan 701 teaches using 100 parts isobutylene isoprene copolymer rubber (butyl rubber). See abstract, paragraph 5, 7 of machine translation.

As to claim 7, Japan 701 teaches a tread 1 (base mix) which is devoid of butyl rubber. Butyl rubber is not one of the disclosed rubbers for the tread 1 (base mix). See paragraph 5 of machine translation of Japan 701.

As to claim 9, Japan 701 teaches a tire with a tread.

Remarks

7) Applicant's arguments filed 1-29-10 have been fully considered but they are not persuasive.

With respect to the rejection based on Matsumoto et al (covering mix covers contact face and groove bottom and sidewalls), applicant argues that there is no teaching or suggestion in Japan 935, Japan 311 or Hausmann to add a fatty acid ester to a covering mix. This argument is not persuasive. Matsumoto et al discloses a covering mix (surface layer portion 7c) of a **tire tread**. Each of Japan 935, Japan 311 and Hausmann teach adding a fatty acid ester to a **tire tread**. Japan 935 motivates one of ordinary skill in the art to add fatty acid ester to the rubber composition of Matsumoto et al's tire tread including the covering mix 7c (covering mix) to improve running performance on ice and snow. Japan 311 motivates one of ordinary skill in the art to add fatty acid ester to the rubber composition of Matsumoto et al's tire tread including the covering mix (surface layer 7c) so that the rubber composition is excellent in

workability and uniformity. Hausmann motivates one of ordinary skill in the art to add fatty acid ester to the rubber composition of Matsumoto et al's tire tread including the covering mix (surface layer 7c) to improve traction on ice and snow as well as dry and wet roads. No unexpected results over the applied prior art have been shown. The claimed tire has not been compared with Matsumoto et al's tire. One of ordinary skill in the art would readily appreciate that the teaching to add fatty acid ester to rubber composition as per Japan 935, Japan 311 or Hausmann is applicable to the rubber composition for the covering mix of Matsumoto et al since (1) the rubber composition of Japan 935, Japan 311 or Hausmann, like the covering mix rubber composition of Matsumoto et al is for the ground contacting portion of a tire tread and (2) Matsumoto et al teaches using the rubber composition for either the surface layer 7c or the entire tread (col. 5 lines 6-10). Moreover, Japan 935, Japan 311 or Hausmann disclose adding the fatty acid ester to the composition of **the entire tire tread** and **the covering mix (surface layer 7c) is part of the tire tread**. It is acknowledged that the specification describes an example in which fatty acid ester is added to the covering mix MR whereas aromatic oil is added to the base mix MB. See Table. However, none of the pending claims exclude adding unsaturated C₁₂-C₂₂ fatty acid ester type to the base mix.

Applicant's arguments regarding the rejection based on Japan 701 (covering mix covers groove bottom and sidewalls, but not contact face) are not persuasive in view of the comments in the statement of the rejection using Japan 701 as a primary reference and (2) the above comments regarding the secondary art to Japan 935, Japan 311 and

Hausmann given in response to applicant's arguments regarding the rejection using Matsumoto as a primary reference.

8) No claim is allowed.

9) Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

10) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Steven D. Maki/
Primary Examiner, Art Unit 1791

Steven D. Maki
May 8, 2010